



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/544,170

08/01/2005

Tomoharu Kaneko

L9289.05164

7733

7590 08/03/2007
STEVENS DAVIS, MILLER & MOSHER LLP
1615 L STREET, NW SUITE 850
P.O. BOX 34387
WASHINGTON, DC 20043

EXAMINER

GOETZE, SIMON A

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

08/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/544,170	Applicant(s) KANEKO ET AL.	
	Examiner Simon A. Goetze	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2007.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 11-12, and 14-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 11-12, and 14-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This Action is in response to Applicant's amendment filed on March 30, 2007. **Claims 1-6, 11-12, and 14-16** are now pending in the application. Claims 8 and 9 have been withdrawn due to a restriction requirement. Claims 7, 10, and 13 have been cancelled. Claims 15 and 16 have been newly added. **This Action is made FINAL.**

Response to Arguments

Applicant's arguments filed March 30, 2007 have been fully considered but they are not persuasive.

The argued features (of independent claim 1, and similarly of independent claims 14-16), i.e., notifying only the at least one of the wireless networks specified in the authentication information notification destination searcher of authentication information required for authentication of the wireless terminal apparatus before the wireless terminal apparatus moves to the at least one of the wireless networks, wherein the authentication information manager notifies the at least one wireless network of the authentication information each time the wireless terminal apparatus access the at least one wireless network or at a fixed interval, reads upon Lee et al. as modified by Eaton et al. as follows.

Lee et al. is discussing a system which utilizes a centralized management server for authentication information. Before a mobile terminal moves into a new wireless network, the server sends keys to be used for authentication mobile users to wireless networks proximate to

Art Unit: 2617

the mobile user. Therefore disclosing the limitation of “an authentication information manager that notifies only the at least one of the wireless networks specified in the authentication information notification destination searcher of authentication information required for authentication of the wireless terminal apparatus before the wireless terminal apparatus moves to the at least one of the wireless networks.” Lee et al. further discusses once a mobile terminal is associated keys to be used for authentication are sent to all proximate networks. Therefore disclosing the limitation of “the authentication information manager notifies the at least one wireless network of the authentication information each time the wireless terminal apparatus accesses the at least one wireless network or at a fixed interval.”

Additionally, Lee et al. and Eaton et al. are in related art, and therefore they are combinable. They can be combined and used to teach the claimed invention of the Applicant. The motivation for combining comes from the background of Eaton.

As a result, the argued features are written in such a way that they read upon the cited references.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

Art Unit: 2617

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-6, 11-12, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. (US Patent Application Publication 2004/0242228) in view of Eaton et al. (US Patent 6,888,811).

Consider **claim 1**, Lee et al. discloses a centralized management authentication apparatus that performs centralized management of authentication to enable a wireless terminal apparatus to perform roaming on a plurality of wireless networks each having at least one radio base station, said centralized management authentication apparatus comprising (*Abstract; Page 2, Paragraph 0027; Page 3, Paragraph 0040; Page 4, Paragraph 0062*):

an information acquirer that acquires service area information of each of the plurality of wireless networks and information of a current location of the wireless terminal apparatus (*server which manages an AP-neighborhood graph – Figure 5A – Page 4, Paragraphs 0063 and 0066*);

an authentication information notification destination searcher that specifies at least one of the wireless networks that provides communication services in a peripheral area of the current location of the wireless terminal apparatus based on the acquired service area information and information of the current location (*server which manages an AP-neighborhood graph – Figure 5A – Page 4, Paragraphs 0062-0063 and 0066; Page 5, Paragraphs 0070-0071 and 0074*); and

an authentication information manager that notifies only the at least one of the wireless networks specified in the authentication information notification destination searcher of authentication information required for authentication of the wireless terminal apparatus before the wireless terminal apparatus moves to the least one of the wireless networks wherein: the authentication information manager notifies the at least one wireless network of the authentication information each time the wireless network apparatus access the at least one wireless network or at a fixed interval (*server notifies neighboring access points of required information for authentication – Figures 10A-10E.– Page 3, Paragraph 0040; Page 7, Paragraphs 0102-0103, 0107-0109*).

However, Lee et al. fails to specifically disclose that the location of the wireless terminal apparatus is acquired. It is understood in the art that the location of the wireless terminal apparatus could be deduced based upon the access point to which it is currently connected.

In related prior art, Eaton et al. specifically discloses the acquisition of the wireless terminal apparatus' location in order to aid in handoff decisions between wide area networks, such as cellular networks, and short range wireless networks, such as wireless LAN (*Column 2, Lines 30-46; Column 8, Lines 19-54; Column 10, Lines 27-42*).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the teachings of Eaton et al. with those of Lee et al. in order to enable a system to effectively determine the exact location of a wireless terminal to determine appropriate networks to perform a handoff of communication.

Consider **claim 14**, Lee et al. discloses a wireless terminal authentication method in a wireless communication system comprised of a plurality of wireless networks each having at

least one radio base station said method comprising (*Abstract; Page 2, Paragraph 0027; Page 3, Paragraph 0040; Page 4, Paragraph 0062*):

an information acquiring step of acquiring location information of a wireless terminal apparatus and service area information of each of the plurality of wireless networks (*server which manages an AP-neighborhood graph – Figure 5A – Page 4, Paragraphs 0063 and 0066*);

an identifying step of identifying at least one of the wireless networks that provides communication services in a peripheral area of a location where the wireless terminal apparatus exists based on the acquired location information of the wireless terminal apparatus and service area information of each of the plurality of wireless networks (*server which manages an AP-neighborhood graph – Figure 5A – Page 4, Paragraphs 0062-0063 and 0066; Page 5, Paragraphs 0070-0071 and 0074*); and

an authentication information notifying step of notifying the identified wireless network of authentication information of the wireless terminal apparatus before the wireless terminal apparatus before the wireless terminal apparatus moves to the network wherein: the authentication information manager notifies the at least one wireless network of the authentication information each time the wireless network apparatus access the at least one wireless network or at a fixed interval (*server notifies neighboring access points of required information for authentication – Figures 10A-10E – Page 3, Paragraph 0040; Page 7, Paragraphs 0102-0103, 0107-0109*).

However, Lee et al. fails to specifically disclose that the location of the wireless terminal apparatus is acquired. It is understood in the art that the location of the wireless terminal apparatus could be deduced based upon the access point to which it is currently connected.

Art Unit: 2617

In related prior art, Eaton et al. specifically discloses the acquisition of the wireless terminal apparatus' location in order to aid in handoff decisions between wide area networks, such as cellular networks, and short range wireless networks, such as wireless LAN (*Column 2, Lines 30-46; Column 8, Lines 19-54; Column 10, Lines 27-42*).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the teachings of Eaton et al. with those of Lee et al. in order to enable a system to effectively determine the exact location of a wireless terminal to determine appropriate networks to perform a handoff of communication.

Consider **claim 15**, Lee et al. discloses a wireless communication system comprising:

a centralized management authentication apparatus that performs centralized management of authentication to enable a wireless terminal apparatus to perform roaming on a plurality of wireless networks each having at least one radio base station, said centralized management authentication apparatus comprising (*Abstract; Page 2, Paragraph 0027; Page 3, Paragraph 0040; Page 4, Paragraph 0062*):

an information acquirer that acquires service area information of each of the plurality of wireless networks and information of a current location of the wireless terminal apparatus (*server which manages an AP-neighborhood graph – Figure 5A – Page 4, Paragraphs 0063 and 0066*);

an authentication information notification destination searcher that specifies at least one of the wireless networks that provides communication services in a peripheral area of the current location of the wireless terminal apparatus based on the acquired service area information and

Art Unit: 2617

information of the current location (*server which manages an AP-neighborhood graph – Figure 5A – Page 4, Paragraphs 0062-0063 and 0066; Page 5, Paragraphs 0070-0071 and 0074*); and

an authentication information manager that notifies only the at least one of the wireless networks specified in the authentication information notification destination searcher of authentication information required for authentication of the wireless terminal apparatus before the wireless terminal apparatus moves to the least one of the wireless networks wherein: the authentication information manager notifies the at least one wireless network of the authentication information each time the wireless network apparatus access the at least one wireless network or at a fixed interval (*server notifies neighboring access points of required information for authentication – Figures 10A-10E – Page 3, Paragraph 0040; Page 7, Paragraphs 0102-0103, 0107-0109*),

an authentication information holder that holds authentication information obtained by making a request for authentication information to a centralized management authentication apparatus (*authentication information for neighboring and current access points is exchanged and stored – Figures 10A-10E – Page 3, Paragraph 0040; Page 5, Paragraph 0074; Page 7, Paragraphs 0102-0103, 0107-0109*); and

an authentication performer that uses the authentication information held in the authentication information holder in authentication of the wireless terminal apparatus in a service area of a movement destination when the wireless terminal apparatus moves between service areas of a wireless network to which the authentication apparatus belongs (*Figures 10A-10E – Page 3, Paragraph 0040; Page 7, Paragraphs 0102-0103, 0110-0112*).

However, Lee et al. fails to specifically disclose that the location of the wireless terminal apparatus is acquired. It is understood in the art that the location of the wireless terminal apparatus could be deduced based upon the access point to which it is currently connected.

In related prior art, Eaton et al. specifically discloses the acquisition of the wireless terminal apparatus' location in order to aid in handoff decisions between wide area networks, such as cellular networks, and short range wireless networks, such as wireless LAN (*Column 2, Lines 30-46; Column 8, Lines 19-54; Column 10, Lines 27-42*).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the teachings of Eaton et al. with those of Lee et al. in order to enable a system to effectively determine the exact location of a wireless terminal to determine appropriate networks to perform a handoff of communication.

Consider **claim 16**, Lee et al. discloses a wireless communication system comprising:

an authentication provider unit comprising:

a centralized management authentication apparatus that performs centralized management of authentication to enable a wireless terminal apparatus to perform roaming on a plurality of wireless networks each having at least one radio base station, said centralized management authentication apparatus comprising (*Abstract; Page 2, Paragraph 0027; Page 3, Paragraph 0040; Page 4, Paragraph 0062*):

an information acquirer that acquires service area information of each of the plurality of wireless networks and information of a current location of the wireless terminal apparatus (*server which manages an AP-neighborhood graph – Figure 5A – Page 4, Paragraphs 0063 and 0066*);

Art Unit: 2617

an authentication information notification destination searcher that specifies at least one of the wireless networks that provides communication services in a peripheral area of the current location of the wireless terminal apparatus based on the acquired service area information and information of the current location (*server which manages an AP-neighborhood graph – Figure 5A – Page 4, Paragraphs 0062-0063 and 0066; Page 5, Paragraphs 0070-0071 and 0074*); and

an authentication information manager that notifies only the at least one of the wireless networks specified in the authentication information notification destination searcher of authentication information required for authentication of the wireless terminal apparatus before the wireless terminal apparatus moves to the least one of the wireless networks wherein: the authentication information manager notifies the at least one wireless network of the authentication information each time the wireless network apparatus access the at least one wireless network or at a fixed interval (*server notifies neighboring access points of required information for authentication – Figures 10A-10E – Page 3, Paragraph 0040; Page 7, Paragraphs 0102-0103, 0107-0109*); and

an authentication apparatus comprising:

an authentication information holder that holds authentication information obtained by making a request for authentication information to a centralized management authentication apparatus (*authentication information for neighboring and current access points is exchanged and stored – Figures 10A-10E – Page 3, Paragraph 0040; Page 5, Paragraph 0074; Page 7, Paragraphs 0102-0103, 0107-0109*); and

an authentication performer that uses the authentication information held in the authentication information holder in authentication of the wireless terminal apparatus in a service

Art Unit: 2617

area of a movement destination when the wireless terminal apparatus moves between service areas of a wireless network to which the authentication apparatus belongs (*Figures 10A-10E – Page 3, Paragraph 0040; Page 7, Paragraphs 0102-0103, 0110-0112*).

However, Lee et al. fails to specifically disclose that the location of the wireless terminal apparatus is acquired. It is understood in the art that the location of the wireless terminal apparatus could be deduced based upon the access point to which it is currently connected.

In related prior art, Eaton et al. specifically discloses the acquisition of the wireless terminal apparatus' location in order to aid in handoff decisions between wide area networks, such as cellular networks, and short range wireless networks, such as wireless LAN (*Column 2, Lines 30-46; Column 8, Lines 19-54; Column 10, Lines 27-42*).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the teachings of Eaton et al. with those of Lee et al. in order to enable a system to effectively determine the exact location of a wireless terminal to determine appropriate networks to perform a handoff of communication.

Consider **claim 2**, as applied to claim 1 above, Lee et al. as modified by Eaton et al. further discloses that the plurality of wireless networks has a cellular wireless network provided with a function of managing the location of the wireless terminal apparatus, and the authentication information notification destination searcher acquires the information of the current location of the wireless terminal apparatus from the cellular wireless network (*Eaton et al. – WAN network, e.g. cellular, and WLAN network, and the location of the wireless terminal is acquired and stored – Column 2, Lines 30-46; Column 8, Lines 19-54; Column 10, Lines 27-52*).

Consider **claim 3**, as applied to claim 1 above, Lee et al. as modified by Eaton et al. further discloses that the authentication information manager notifies one of the wireless networks that requests the authentication information of the authentication information generated by an authentication information generating apparatus of the cellular wireless network (*Lee et al. – server notifies neighboring access points of required information for authentication – Figures 10A-10E – Page 3, Paragraph 0040; Page 7, Paragraphs 0102-0103, 0107-0109*).

Consider **claim 4**, as applied to claim 2 above, Lee et al. as modified by Eaton et al. further discloses that the authentication information notification destination searcher acquires the service area information of each wireless network of the plurality of wireless networks from the cellular wireless network (*server which manages an AP-neighborhood graph – Figure 5A – Page 4, Paragraphs 0062-0063 and 0066; Page 5, Paragraphs 0070-0071 and 0074*).

Consider **claim 5**, as applied to claim 2 above, Lee et al. as modified by Eaton et al. further discloses that a location management apparatus of the cellular wireless network manages the service area information and the information of the current location of the wireless terminal apparatus, and based on the service area information and wireless terminal location information managed by the location management apparatus of the cellular wireless network, the authentication information notification destination searcher specifies at least one wireless network of the plurality of wireless networks that provides communication services in a peripheral area of the current location of the wireless terminal apparatus (*server which manages an AP-neighborhood graph – Figure 5A – Page 4, Paragraphs 0062-0063 and 0066; Page 5, Paragraphs 0070-0071 and 0074; Page 7, Paragraph 0104*).

Art Unit: 2617

Consider **claim 6**, as applied to claim 1 above, Lee et al. as modified by Eaton et al. further discloses a cellular wireless network comprising the centralized management authentication apparatus (*Eaton et al. discloses a co-located system which deals with authentication between the different networks using location attributes - Column 2, Lines 30-46; Column 8, Lines 19-54; Column 10, Lines 27-42; Lee et al. discloses an effective manner of managing fast roaming authorization between different access points – Abstract; Page 2, Paragraph 0027; Page 3, Paragraph 0040; Page 4, Paragraph 0062*).

Consider **claim 11**, as applied to claim 1 above, Lee et al. as modified by Eaton et al. further discloses an authentication provider unit that manages entire wireless networks, comprising the centralized management authentication apparatus (*higher layer server – Figure 10A – Page 7, Paragraph 0103*).

Consider **claim 12**, as applied to claim 11 above, Lee et al. as modified by Eaton et al. further discloses:

a location management apparatus that manages the service area information of each of a plurality of wireless networks, and current location information of a wireless terminal apparatus (*Lee et al. – server which manages an AP-neighborhood graph – Figure 5A – Page 4, Paragraphs 0063 and 0066*),

wherein the location management apparatus acquires the location information of the wireless terminal apparatus from a cellular wireless network that performs location management of the wireless terminal apparatus (*Lee et al. determines location based upon current access point connection; Eaton et al. – WAN network, e.g. cellular, and WLAN network, and the*

Art Unit: 2617

location of the wireless terminal is acquired and stored – Column 2, Lines 30-46; Column 8, Lines 19-54; Column 10, Lines 27-52).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314


Art Unit: 2617

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Simon A. Goetze whose telephone number is (571) 270-1113. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm and Friday from 7:30am to 4:00pm.

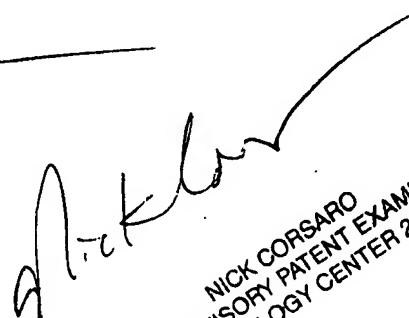
If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.


Simon A. Goetze
S.A.G./sag

June 25, 2007


NICK CORSARO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600